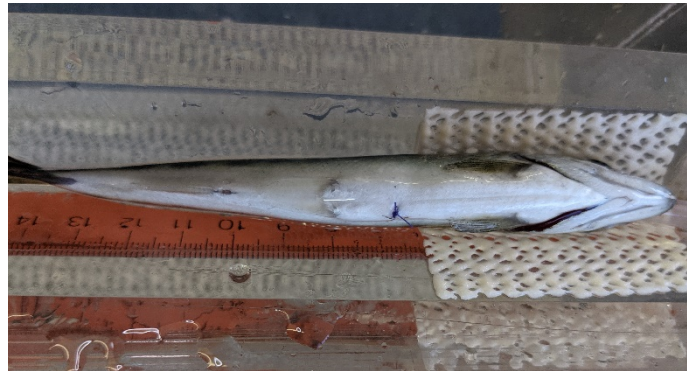




Fisheries Program Update



June 14, 2021

Why we're here

- Rock Island Survival Study Update
Lance Keller
- Habitat Conservation Plan Implementation Update
Alene Underwood
- Ocean Conditions Effects on Salmon and Steelhead
Catherine Willard

Rock Island Survival Study Update

Activity	Status
Collection/Transport/Tag/ Release Study Fish	First release - April 23, 2021 Last release – May 22, 2021
No. of Tags Deployed	~1,000 (Test and Control) 15 replicates
Initial travel time estimate from RR tailrace RI forebay (conducted two-thirds of the way through the study)	~16 hours (range – 7.5 hours to 209 hours)
Project Conditions – held through May 28	Flow Average – 125.8 kcfs Flow Min – 35.1 kcfs Flow Max – 180.6 kcfs Spill ~ 10 percent of flow

Next Steps

Rock Island

- Preliminary results in August
- Final statistical results in September
- Present to HCP Coordinating Committee in September

Rocky Reach

- Begin contract development in July
- Present to Board in September
- NTE estimated around \$1M- \$1.5M

Habitat Conservation Plans Implementation Updates

Fish Loss



Fish Mitigation



HCP TC 2020 Funded Projects

Project Name	Location	Sponsor	Total Cost	TC Contribution
Beaver Creek No. 040016 Correction Project	Beaver Creek	Chelan County Natural Resource Dept.	\$251,110	RR: \$54,646
Chiwawa Floodplain Reconnection and Enhancement	Chiwawa River	Chelan County Natural Resource Dept.	\$166,395	RI: \$24,960
Big Meadow Creek Fish Passage Restoration	Chiwawa River	Cascade Fisheries	\$475,000	RI: \$207,500
Nason Kahler Instream Complexity	Nason Creek	Chelan County Natural Resource Dept.	\$662,865	RR: \$149,020
City of Leavenworth Fish Screen	Icicle Creek	Trout Unlimited	\$900,100	RI: \$475,100
Chumstick Baseflow and Riparian Enhancement	Chumstick Creek	Cascadia Conservation District	\$237,727	RR: \$82,145
Goodwin Side Channel Assessment	Wenatchee River	Cascade Fisheries	\$21,157	RI: \$17,067
TOTAL:			\$2,714,354	\$1,010,438

2020 Production Level Objectives and Smolt Releases for HCP Programs

Species	Final Rearing Site	Production Level Objectives (2014-2023)	Total Releases in 2020 (Number of Fish)
Spring Chinook	Chiwawa Acclimation Facility	144,026	165,888 smolts
Spring Chinook	Chewuch Acclimation Pond	60,516	65,581 smolts
Summer Chinook	Chelan Falls Acclimation Facility	576,000	620,280 smolts
Summer/Fall Chinook	Dryden Pond	318,000	260,578 smolts
Steelhead	Chiwawa Acclimation Facility	247,300	218,307 smolts

2020 Production Level Objectives and Smolt Releases for HCP Programs *Funding Programs*

Species	Final Rearing Site	Production Level Objectives (2014-2023)	Total Releases in 2020 (Number of Fish)
Sockeye	kł c̓pəl̓k̓ stim̓ Hatchery	591,050	218,002 fry
Spring Chinook	Chief Joseph Hatchery (CJH)	115,000 (12.81% of CJH production)	15,374 smolts
Summer Chinook	Chief Joseph Hatchery /Omak Pond	94,570 (13.51% of CJH production)	76,436 subyearlings
Summer Chinook	Similkameen Acclimation Facility	166,569 (12.81% of CJH production)	54,533 smolts
Coho	Various in Wenatchee and Methow Basins	143,591	~200,000 smolts (this is 10% of total program)

Salmon and Steelhead Survival

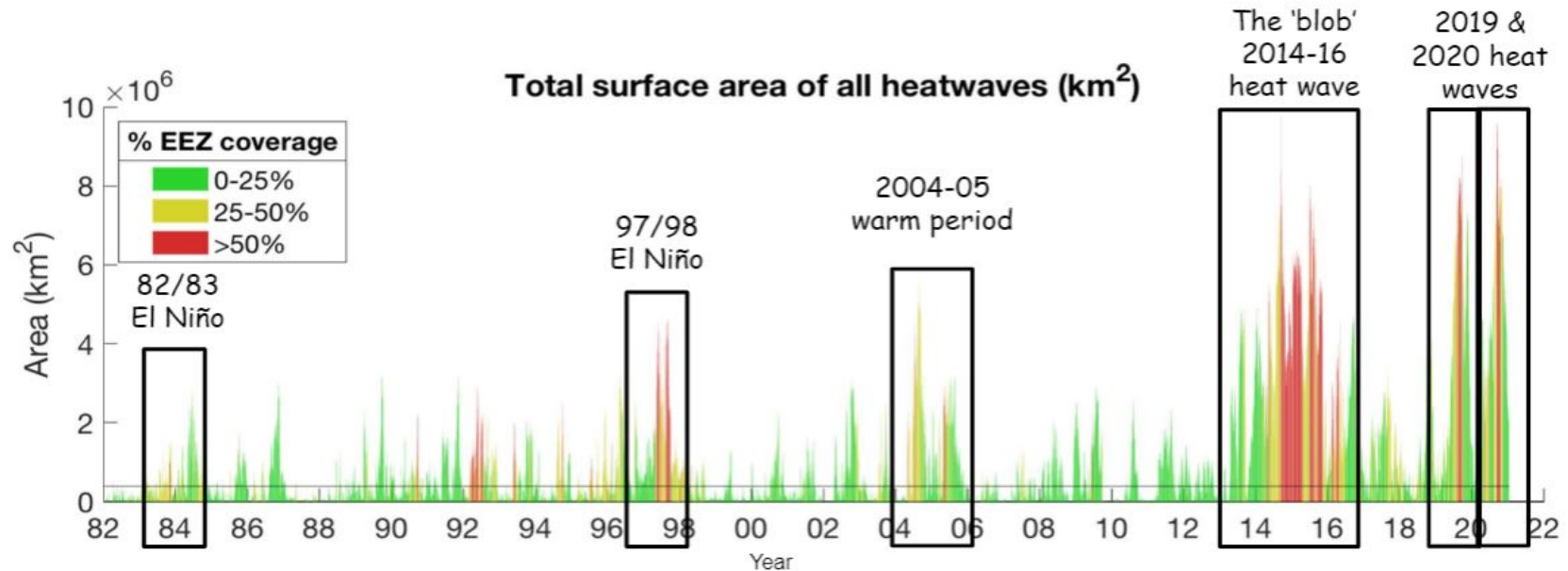
- Freshwater survival affected by the “Four H’s”
 - Hydropower, hatcheries, habitat and harvest
- Recent publications
 - Kintama Research (Welch et. al)
 - Northwest Fisheries Science Center-NOAA Fisheries (Burke et al.)

Salmon and Steelhead Survival

- Welch et al.
 - All stocks of Chinook Salmon are declining along the West Coast at about the same rate and concluded that the most likely cause is poor ocean conditions.
- Burke et al.
 - Even if survival in the river was 100% salmon and steelhead populations are not going to recover without an improvement in ocean conditions.

Ocean Conditions

NE Pacific marine heatwaves are increasing



2020-21 California Current Ecosystem Status Report
NOAA California Current IEA Team

FCRPS Biological Opinion

Final National Oceanic and Atmospheric Administration Biological Opinion issued
June 24, 2020 for the Federal Power System.

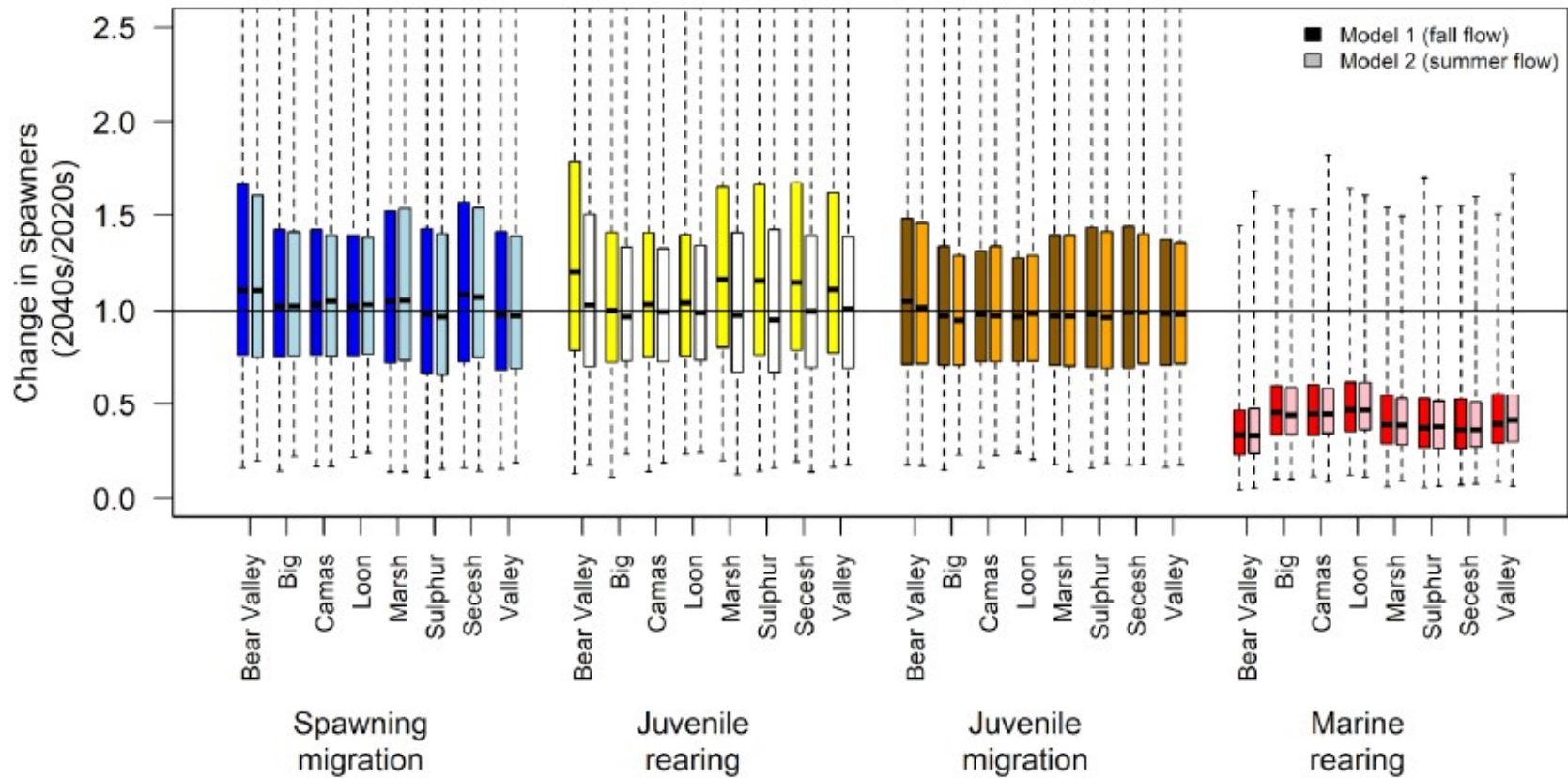


Figure 2.2-22. Effects of climate change applied one life cycle stage at a time to Middle Salmon River MPG populations expressed as change in the number of spawners between 2020 and 2040.

Biological Responses

Biological Responses

Range Expansions, Lack of Food, Disease



A close-up, high-angle shot of a large group of koi fish swimming in a body of water. The fish are densely packed, filling the entire frame. They exhibit a wide variety of colors, including bright orange, vibrant red, deep green, and some with white or yellow markings. The water is slightly rippled, and the fish are captured in various positions, some facing towards the camera and others away, creating a sense of movement and depth. The overall scene is a dynamic and colorful display of these ornamental fish.

Questions or Comments?